

**Remarks**

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested.

Claims 1-21 remain in this application. Claim 1 has been amended.

**Drawings**

The Examiner has indicated on form PTO-326 that the formal drawings previously submitted have been approved.

**§ 102 Rejections**

The Office Action has rejected claims 1, 3, 4, 7, 10-12 and 17 under 35 U.S.C. § 102(b) as being anticipated by Japanese unexamined patent application (Kokai) JP56-14438 (“Hitachi”).

The Office Action asserts that Hitachi teaches the features of Applicant’s invention, and points to page 3, lines 12-23, pages 4-6 and the figures for support. Applicants disagree and respectfully traverse the rejection.

Hitachi teaches an atomizing burner wherein a thin film of glass precursor is formed on the front surface of a vibration amplifying horn. Ultrasonic vibration of the horn causes the thin film to be atomized. The atomized particles that are ejected from the front face of the vibration horn are then carried by a flow of H<sub>2</sub> gas (see page 3 lines 17-28). It is clear from the referenced disclosure in Hitachi that the glass precursor leaves the vibration horn in an atomized state, and that the glass precursor is in an atomized state prior to being “jetted” from nozzle 7’.

Applicants’ invention comprises an injector nozzle from which a glass precursor is injected into a chamber in a substantially liquid state, and only becomes atomized upon leaving the atomization orifice on the face of the burner. There is a clear distinction between Hitachi and Applicant’s invention. Applicants believe the amendment to claim 1, shown on page 2 herein, clarifies this distinction. Further, Hitachi does not disclose a chamber which is pressurized as required by claim 1. Based on these differences, Applicants contend that Hitachi does not anticipate claim 1. Claims 3, 4, 7 and 10, which claims depend from claim 1, are therefore also not anticipated.

Claim 11 of Applicants' invention requires that the injection orifice is remote from the atomization orifice. It is clear from Applicants' disclosure, and currently amended claim 1, that the glass precursor leaves the injection orifice and enters the pressurization chamber as a substantially liquid stream, and is only atomized at the atomization orifice located at the burner face (see page 11, lines 31-32 and page 12, lines 1-7 of Applicants' specification). In any analogous construction, Hitachi fails to provide for an atomization orifice remotely located from an injection orifice. Therefore Applicants assert that Hitachi fails to anticipate claim 11 of the present invention. Claims 12 and 17, which depend from claim 11, are therefore also not anticipated.

The Office Action rejected claim 19 under 35 U.S.C. § 102(b) as being anticipated by Kilian et al. (US Patent 5,622,750). Applicants respectfully disagree and traverse the rejection.

Kilian et al. discloses a burner assembly ("torch") consisting of concentric glass tubes (column 5, lines 9-12). An atomized glass precursor is delivered to the burner assembly (column 4, lines 18-23 and FIG. 3). Kilian et al. also discloses minimizing turbulence by matching the flow rates of the various gases delivered through the torch. Kilian et al. does not disclose an injector arranged to deliver a liquid precursor, nor does Kilian et al. disclose a burner having an atomization orifice. Further, Kilian fails to disclose an atomization orifice wherein the shape of the atomization orifice controls (reduces) turbulence at the burner face. For these reasons, Applicants contend that Kilian fails to anticipate claim 19.

### **§ 103 Rejections**

The Office Action has rejected claims 2 and 13-16 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Hitachi. Applicants' disagree and respectfully traverse the rejection.

The Office Action asserts that Hitachi teaches the subject matter of Applicants' claimed invention except for a releasable orifice insert, contending that it would have been obvious at the time the invention was made to make the orifice of Hitachi releasable to facilitate replacement of the orifice. Applicants believe that for the reasons stated above, Applicants' claim 1 and claim 11 are allowable. Claim 2, which depends from claim 1, and claims 13-16, which depend from claim 11, are therefore also allowable.

The Office Action rejected claims 8 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Hitachi in View of Dobbins et al. (US Patent 5,043,002). Applicants assert that Dobbins et al. does not cure the deficiencies of Hitachi, and therefore believe that claim 8 and 9 are therefore unobvious and allowable.

The Office Action rejected claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Hitachi in view of Kilian et al. Applicants believe that Kilian et al. does not cure the deficiencies of Hitachi and therefore claim 18 is allowable.

The Office Action rejected claims 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Kilian et al. Applicants believe that for the reasons cited above, claims 20 and 21, which depend from claim 19, are allowable over Kilian et al.

The Office Action rejected claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Hitachi in view of Takahashi et al. (US Patent 4,336,049). Applicants believe that Takahashi does not cure the deficiencies of Hitachi, and therefore claims 5 and 6 are allowable.

## **Conclusion**

Based upon the above amendments, remarks, and papers of record, Applicants believe the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicants respectfully requests reconsideration of the pending claims 1-21 and a prompt Notice of Allowance thereon.

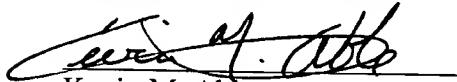
Applicants believes that no extension of time is necessary to make this Response timely. Should Applicants be in error, Applicants respectfully request that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Kevin M. Able at 607-974-2637.

Respectfully submitted,

CORNING INCORPORATED

Date: 6/3/03



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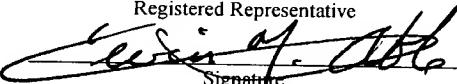
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